II. CLAIM AMENDMENTS

1. (Cancelled)

2. (Previously Presented) A method according to claim 25, wherein the control function is formed at least partly on the basis of an at least partial history of the power control of at least one bearer.

3. (Previously Presented) A method according to claim 25, wherein the transmit power of more than one bearer is determined with the aid of the method when the transmission of at least one bearer is initiated.

4. (Previously Presented) A method according to claim 25, further comprising determining the transmit power of more than one bearer when the transmission of at least one bearer is terminated.

5. (Previously Presented) A method according to claim 25, further comprising determining the transmit power of more than one bearer when the transmit power of at least one bearer changes.

6. (Previously Presented) A method according to claim 25, further comprising determining the transmit power of more than one bearer when the target level of the correctness of at least one bearer changes.

7. (Previously Presented) A method according to claim 25, further comprising determining the transmit power of more than one bearer when the transmission rate of at least one bearer changes.

8. (Previously Presented) A method according to claim 25, further comprising determining the transmit power of more than one bearer when at least one base station of at least one bearer is changed in a macro diversity combination.

9. (Previously Presented) A method according to claim 25, wherein the control function is at least partly formed on the basis of the desired correctness levels of the bearers.

10. (Previously Presented) A method according to claim 25, further comprising checking whether each determined output power value is within the range formed by the typical minimum and maximum limits of the respective bearer, whereby the output power values are taken in use if no one of the values is outside said region.

11. (Cancelled)

12. (Previously Presented) A method according to claim 26, further comprising setting at least one element value to zero, when the value of said element is below a certain predetermined limit.

13. (Previously Presented) A method according to claim 25, further comprising:

controlling the output powers of more than one base station and the mobile stations managed by these base stations, and

forming the control function at least partly also on the basis on how strong the signal of each base station is received in at least one mobile station of each other base station.

14. (Cancelled)

15. (Previously Presented) A method according to claim 25, further comprising making a decision on the basis of the generated output power values for allowing the transmission of at least one bearer.

16-18. (Cancelled)

19. (Currently Amended) A power control method comprising:

determining the transmit power of more than one bearer at a time in a mobile system having at least one mobile station and at least one base station by:

forming a control function at least partly on the basis of a quantity which at least partly represents a fast fading experienced by at least one bearer,

calculating the control function in order to determine new output power values of said more than one bearer,

generating an interference effect matrix which represents the mutual interference of different bearers, and

inverting the generated interference effect matrix in order to form the new power levels.

20. (Currently Amended) A power control method comprising:

determining the transmit power of more than one bearer at a time in a mobile system having at least one mobile station and at least one base station by:

forming a control function at least partly on the basis of a quantity which at least partly represents ~~the~~a fast fading experienced by at least one bearer,

calculating the control function in order to determine new output power values of said more than one bearer,

calculating more than one set of output power values,

forming a utility function in order to select one set of output power values, ~~and~~

selecting the set of output power values which minimizes the value of said utility function,

generating an interference effect matrix, which represents the mutual interferences of different bearers, and

inverting the generated interference effect matrix in order to form new power levels.

21. (Currently Amended) A software code configured and stored in a processor readable medium, wherein the software code is configured to:

communicate at least partly on a spread spectrum technique configured for either at least one mobile station or at least one base station,

define at least one bearer as a communication entity between the at least one base station and the at least one mobile station, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

form a control function at least partly on the basis of a quantity which at least partly represents the control history experienced by the at least one bearer,

calculate the control function in order to determine transmit power values to be used for at least one of said bearers, ~~and~~

determine the transmit power for more than one bearer when the transmission rate of the at least one bearer changes so that the control of said at least one of said bearers is arranged to impact ~~to~~ the control of other bearers,

generate an interference effect matrix, which represents the mutual interferences or different bearers, and

invert the generated interference effect matrix in order to form the new power levels.

22. (Currently Amended) A base station comprising:

a module configured to communicate at least partly on a spread spectrum technique for at least one mobile station and the base station, and wherein a bearer is defined as a communication entity between the base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer,

a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

a generator to generate an interference effect matrix, which represents the mutual interferences of different bearers, and

an inverter to invert the generated interference effect matrix in order to form the new power levels.

23. (Currently Amended) A control unit comprising:

a module configured to communicate at least partly on a spread spectrum technique for at least one mobile station and at least one base station, and wherein a bearer is defined as a communication entity between the at least one base

station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer,

a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

a generator to generate an interference effect matrix, which represents the mutual interferences of different bearers, and

an inverter to invert the generated interference effect matrix in order to form the new power levels.

24. (Previously Presented). The control unit according to claim 23, wherein the control unit is contained in a base station controller.

25. (Currently Amended) A power control method comprising:

defining at least one bearer as a communication entity between at least one base station and at least one mobile station, wherein the at least one base station or the at least one mobile station is configured to communicate at least partly on a spread spectrum technique, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

forming a control function at least partly on the basis of a quantity which at least partly represents the control history experienced by the at least one bearer,

calculating the control function in order to determine transmit power values to be used for at least one of said bearers, ~~and~~

determining the transmit power for more than one bearer when the transmission rate of the at least one bearer changes so that the control of said at least one of said bearers is arranged to impact ~~to~~ the control of other bearers,

generating an interference effect matrix, which represents the mutual interferences of different bearers, and

inverting the generated interference effect matrix in order to form the new power levels.

26. (Cancelled)

27. (Currently Amended) An element comprising:

a module configured to define at least one bearer as a communication entity between at least one base station and at least one mobile station, wherein the at

least one base station or the at least one mobile station is configured to communicate at least partly on a spread spectrum technique, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer,

a device to determine the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

a controller to control the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

a generator to generate an interference effect matrix, which represents the mutual interferences of different bearers, and

an inverter to invert the generated interference effect matrix in order to form the new power levels.

28. (Previously Presented) A load control method in a mobile network, wherein a power control method according to claim 25 is used, said method further comprising:

calculating a power vector in order to generate candidate values to be used as powers at the beginning of the next calculation period;

making a check whether the power load exceeds a predetermined limit, whereby if the power load exceeds said predetermined limit, at least one of the following is decreased:

the transmit power of at least one transmission,

the bit rate of at least one transmission, and

the SIR target level of at least one transmission; and

selecting said at least one transmission on the basis of which transmission has a corresponding candidate power value in the power vector with the greatest ratio to the number of correctly received bits of said transmission during the previous calculation period.

29. (Previously Presented) A method to manage the transmit power of bearers in a mobile network, wherein a power control method according to claim 25 is used, said method further comprising:

controlling the powers of the bearers at least partly in clusters,

determining the clusters of each bearer according to the state of the bearer,

calculating a power vector in order to generate candidate values to be used as powers at the beginning of a next calculation period so that the transmit power of more than one bearer is arranged to be determined when the transmission rate of at least one bearer changes, and

changing the transmission power of at least one bearer cluster in accordance with the calculated candidate values to control the at least one of the bearers so to also control other bearers.

30. (Currently Amended) A base station comprising:

means for communicating at least partly on a spread spectrum technique for at least one mobile station and the base station, and wherein a bearer is defined as a communication entity between the base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

means for generating a quantity which at least partly depends on the control history experienced by at least one bearer,

means for determining the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

means for controlling the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and

means for inverting the generated interference effect matrix in order to form the new power levels.

31. (Currently Amended) A control unit comprising:

means for communicating at least partly on a spread spectrum technique for at least one mobile station and at least one base station, and wherein a bearer is defined as a communication entity between the at least one base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

means for generating a quantity which at least partly depends on the control history experienced by at least one bearer,

means for determining the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

means for controlling the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and

means for inverting the generated interference effect matrix in order to form the new power levels.

32. (Currently Amended) An element comprising:

means for communicating at least partly on a spread spectrum technique either for at least one mobile station or at least one base station, and wherein a bearer is

defined as a communication entity between the at least one base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication,

means for generating a quantity which at least partly depends on the control history experienced by at least one bearer,

means for determining the output power values for more than one bearer at least partly on the basis of said quantity, ~~and~~

means for controlling the transmit power of at least one bearer on the basis of said transmit power values, said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact ~~to~~ the control of other bearers,

means for generating an interference effect matrix, which represents the mutual interferences of different bearers, and

means for inverting the generated interference effect matrix in order to form the new power levels.